

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for controlling feeding of solid matter in a process which comprises at least one unloading point-(UP) for the solid matter, at least one belt conveyor-(2, 2', 3, 5) and at least one feeding point-(SP) for the solid matter, the solid matter being unloaded in the unloading point-(UP) from solid matter storage to a belt conveyor-(2, 2'), which is arranged to convey said solid matter either directly or via at least one other belt conveyor-(3, 5) to the feeding point-(SP), characterized by comprising
 - determining a set value for atthe thickness of a material bed formed of the solid matter to be unloaded to the belt conveyor-(2, 2');
 - controlling the unloading of the solid matter to the belt conveyor-(2, 2') in the unloading point-(UP) in such a way that the thickness of the material bed follows said set value;
 - determining a material bed profile-(PROF) expressing variation in the thickness of the material bed in atthe longitudinal direction of the belt conveyor-(2, 2', 3, 5);
 - determining atthe material flow travelling on the belt conveyor-(2, 2', 3, 5) on the basis of said profile-(PROF); and
 - controlling in the feeding point-(SP) anthe amount of the solid matter to be fed by controlling atthe speed-(S) of the belt conveyor-(2, 2', 3, 5).
2. (Currently Amended) A method according to claim 1, characterized by wherein feeding the solid matter in the feeding point-(SP) to a solid matter intermediate storage, a storage tank or a solid matter treatment process, from thewhich intermediate storage or the storage tank said solid matter is unloaded for further treatment, or said solid matter discharges

passively for further treatment, or in which the treatment process of said solid matter is treated further.

3. (Currently Amended) A method according to claim 1, characterized bywherein the thickness of the material bed formed of the solid matter being atthe mass of the solid matter per length unit of the belt conveyor (2, 2', 3, 5), a the volume of the solid matter per length unit of the belt conveyor (2, 2', 3, 5) or a the cross-sectional area of the material bed formed of the solid matter.

4. (Currently Amended) A method according to claim 1, characterized bywherein

determining an amount target-(C_{USP}) for the solid matter to be fed to atthe intermediate storage, a storage tank or a treatment process on the basis of anthe amount of the solid matter discharged from the intermediate storage or anthe amount of the solid matter treated in the treatment process;

controlling the amount of the solid matter to be fed in the feeding point-(SP) on the basis of the amount target for the solid matter by adjusting the speed-(S) of the belt conveyor (2, 2', 3, 5) on the basis of the amount target-(C_{USP}) for the solid matter; and

controlling anthe unloading speed (SU)-of the solid matter unloaded to the belt conveyor (2, 2') in the unloading point (UP)-on the basis of the speed (S)-of the belt conveyor (2, 2')-in such a way that the thickness of the material bed formed of the solid matter unloaded to the belt conveyor (2, 2') follows the set value set for the material bed thickness.

5. (Currently Amended) A method according to claim 1, characterized bywherein the set value of the thickness of the material bed of the solid matter unloaded to the belt conveyor (2, 2') being a permanently fixed constant value.

6. (Currently Amended) A method according to claim 1, characterized bywherein defining the a material bed profile ($PROF$)-expressing variation in the thickness of

the material bed of the solid matter on the belt conveyor (2, 2', 3, 5) in the longitudinal direction of the belt conveyor (2, 2', 3, 5) on the basis of the speed (S) of the belt conveyor (2, 2', 3, 5) and at the speed (SU) of athe unloader-(1, 1').

7. (Currently Amended) A method according to claim 6, characterized bywherein defining a variable (M_{CU} , M_C) expressing athe weight of the solid matter on the belt conveyor (2, 2', 3, 5); and updating the profile (PROF) of the material bed formed of the solid matter at a particular point of the belt conveyor (2, 2', 3, 5) on the basis of the variable (M_{CU} , M_C) expressing the weight of the solid matter on the belt conveyor.

8. (Currently Amended) A method according to claim 6, characterized bywherein combining solid matter kind and/or grade information with the material bed profile (PROF) expressing variation in the thickness of the material bed of the solid matter on the belt conveyor (2, 2', 3, 5) in the longitudinal direction of the belt conveyor (2, 2', 3, 5).

9. (Currently Amended) A method according to claim 1, characterized bywherein the solid matter being of chips and athe intermediate storage being a chip silo-(6).

10. (Currently Amended) A method according to claim 1, characterized bywherein the solid matter being solid fuel and athe solid matter treating process being a power boiler, where the solid matter is combusted for producing energy.

11. (Currently Amended) A method according to claim 1, characterized bywherein the solid matter being of rock, concrete and/or asphalt and athe solid matter treating process being a crushing, screening and/or mixing process.

12. (Currently Amended) An apparatus for controlling feeding of solid matter in a process which comprises at least one unloading point (UP) for the solid matter, at least one belt conveyor (2, 2', 3, 5) and at least one feeding point (SP) for the solid matter, the solid matter being arranged to be unloaded in the unloading point (UP) from solid matter storage to a belt conveyor-(2, 2'), which is arranged to convey said solid matter either directly or via at

least one other belt conveyor (3, 5) to the feeding point-(SP), characterized in that wherein the apparatus is arranged

— to determine a set value for at the thickness of a material bed formed of the solid matter to be unloaded to the belt conveyor (2, 2');

— to control the unloading of the solid matter to the belt conveyor (2, 2') in the unloading point-(UP) in such a way that the thickness of the material bed follows said set value;

— to determine a material bed profile-(PROF) expressing variation in the thickness of the material bed in at the longitudinal direction of the belt conveyor (2, 2', 3, 5);

— to determine at the material flow travelling on the belt conveyor (2, 2', 3, 5) on the basis of said profile-(PROF); and

— to control an the amount of the solid matter to be fed in the feeding point-(SP) by controlling at the speed-(S) of the belt conveyor (2, 2', 3, 5).

13. (Currently Amended) An apparatus according to claim 12, characterized in thatwherein in the feeding point-(SP) the solid matter is arranged to be fed to a solid matter intermediate storage, a storage tank or a solid matter treatment process, from thewhich intermediate storage said solid matter is arranged to be unloaded or said solid matter is arranged to discharge passively for further treatment, or in thewhich treatment process of said solid matter is arranged to be treated further.

14. (Currently Amended) An apparatus according to claim 12, characterized in thatwherein the thickness of the material bed formed of the solid matter is at the mass of the solid matter per length unit of the conveyor (2, 2', 3, 5), at the volume of the solid matter per length unit of the belt conveyor (2, 2', 3, 5) or an the area of the cross-section of the material bed formed of the solid matter.

15. (Currently Amended) An apparatus according to claim 12, characterized in thatwherein the apparatus is arranged to determine an amount target-(C_{USP}) for the solid matter to be fed to atthe intermediate storage or atreating process on the basis of anthe amount of the solid matter exiting from the intermediate storage or storage tank or anthe amount of the solid matter treated in the treatment process;

the apparatus is arranged to control the amount of solid matter to be fed in the feeding point-(SP) by adjusting the speed-(S) of the belt conveyor-($2, 2', 3, 5$) on the basis of the amount target-(C_{USP}) for the solid matter; and that

the apparatus is arranged to control atthe unloading speed-(SU) of the solid matter unloaded to the belt conveyor-($2, 2'$) in the unloading point-(UP) on the basis of the speed-(S) of the belt conveyor-($2, 2'$) in such a way that the thickness of the material bed formed of the solid matter unloaded to the belt conveyor-($2, 2'$) follows the set value set for the thickness of the material bed.

16. (Currently Amended) An apparatus according to claim 12, characterized in thatwherein the set value of the thickness of the material bed of the solid matter unloaded to the belt conveyor-($2, 2'$) is a permanently fixed constant value.

17. (Currently Amended) An apparatus according to claim 12, characterized in thatwherein the apparatus is further arranged to define thea material bed profile ($PROF$) expressing variation in the thickness of the material bed of the solid matter on the belt conveyor ($2, 2', 3, 5$) in the longitudinal direction of the belt conveyor-($2, 2', 3, 5$) on the basis of the speed-(S) of the belt conveyor-($2, 2', 3, 5$) and atthe speed-(SU) of anthe unloader ($1, 1'$).

18. (Currently Amended) An apparatus according to claim 17, characterized in thatwherein the apparatus determines comprises means for determining a variable (M_C, M_{CU}) expressing atthe weight of the solid matter on the belt conveyor-($2, 2', 3, 5$); and that the

apparatus is arranged to update the profile-(~~PROF~~) of the material bed of the solid matter being at a given point of the belt conveyor-(~~2, 2', 3, 5~~) on the basis of the variable-(M_C, M_{Cu}) expressing the weight of the solid matter on the belt conveyor-(~~2, 2', 3, 5~~).

19. (Currently Amended) An apparatus according to claim 17, characterized in thatwherein the apparatus is arranged to combine solid matter kind and/or grade information with the material bed profile-(~~PROF~~) expressing variation in the thickness of the material bed of the solid matter on the belt conveyor-(~~2, 2', 3, 5~~).

20. (Currently Amended) An apparatus according to claim 12, characterized in thatwherein the solid matter is formed of chips and that at the intermediate storage is a chip silo-(~~6~~).

21. (Currently Amended) An apparatus according to claim 12, characterized in thatwherein the solid matter is solid fuel and that at the treatment process of the solid matter is a power boiler, where the solid matter is arranged to be combusted for producing energy.

22. (Currently Amended) An apparatus according to claim 12, characterized in thatwherein the solid matter is rock, concrete and/or asphalt and that at the solid matter treatment process is a crushing, screening and/or mixing process.